

CLAIMS

1. A method for modulating the immune system of a mammal, comprising administering to an epithelial barrier of a mammal in need of such immune modulation an effective
5 amount of a conjugate of an antigen and a FcRn binding partner, wherein the antigen is selected from the group consisting of:

an antigen that is characteristic of a pathogen,
an antigen that is characteristic of an autoimmune
10 disease,
an antigen that is characteristic of an allergen,
and
an antigen that is characteristic of a tumor.

15 2. The method of claim 1 wherein the conjugate is administered orally to the intestinal epithelium.

20 3. The method of claim 1 wherein the conjugate is administered in an aerosol to the lungs.

4. The method of claim 1 wherein the FcRn binding partner is non-specific IgG or a FcRn binding fragment of IgG.

25 5. The method of claim 1 wherein the FcRn binding partner is a Fc fragment of IgG.

30 6. The method of claims 1-5 wherein the antigen is covalently coupled to the FcRn binding partner.

7. The method of claims 1-5 wherein the antigen is characteristic of the tumor.

8. The method of claim 7 wherein the antigen is covalently coupled to the FcRn binding partner.

9. The method of claims 1-5 wherein the antigen that is characteristic of the tumor is selected from the group consisting of proteins encoded by mutated oncogenes; viral proteins associated with tumors; and tumor mucins and glycolipids.

10. A pharmaceutical preparation comprising a conjugate of an antigen and a FcRn binding partner, wherein the antigen is characteristic of a tumor, and a pharmaceutically acceptable carrier, wherein the conjugate is present in an amount effective for modulating the immune response of a mammal.

11. The pharmaceutical preparation of claim 10 wherein the FcRn binding partner is non-specific IgG or a FcRn binding fragment of IgG.

12. The pharmaceutical preparation of claim 10 wherein the FcRn binding partner is an Fc fragment of IgG.

13. The pharmaceutical preparation of claims 10-12 wherein the antigen is covalently coupled to the FcRn binding partner.

14. The pharmaceutical preparation of claims 10-12 wherein the unit dosage is an oral formulation.

15. The pharmaceutical preparation of claims 10-12 wherein the unit dosage is an aerosol formulations.

16. The pharmaceutical preparation of claims 10-12 wherein the unit dosage is a nasal formulation.

17. The pharmaceutical preparation of claim 10-12 wherein the unit dosage is nonaseptic.

18. A method of orally delivering molecules to a mammal which comprises administering to said mammal an effective amount of a conjugate of a therapeutic and a FcRn binding partner targeted to epithelial cells expressing a FcRn.

19. A method of delivering molecules to a mammal which comprises administering to said mammal an effective amount of a conjugate of a bioactive substance and a FcRn binding partner targeted to epithelial cells expressing a FcRn.

20. The method of claim 19 wherein the FcRn binding partner is a Fc fragment of IgG.

21. The method of Claim 19 wherein the method of delivery is oral or sublingual.

22. The method of Claim 19 wherein the method of delivery is intranasal.

23. The method of Claim 19 wherein the method of delivery is by aerosol administration.

24. The method of Claim 19 wherein the bioactive
5 substance is selected from the group consisting of cells,
viruses, vectors, proteins, peptides, nucleic acids,
polysaccharides and carbohydrates, lipids, glycoproteins, and
combinations thereof and synthetic organic and inorganic
drugs exerting a biological effect when administered to a
10 mammal.

20

25

30